Luís Saraiva (ed.), *History of Mathematical Sciences: Portugal and East Asia II. Scientific Practices and the Portuguese Expansion in Asia, 1498-1759. Papers from the International Meeting Organized by the University of Macau and Centro de Matemática e Aplicações Fundamentais / Universidade de Lisboa. Macao, 10-12 October 1998*. Lisbon: EMAF-UL, 2001. 182 pp.

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This is a compilation of 12 of 15 papers presented at the conference 'History of Mathematical Sciences: Portugal and East Asia II' held at the Faculty of Science and Technology of the University of Macao in October 2001. Its aim was to analyze the interaction between Europe and East Asia between 1498, the arrival of Vasco da Gama in India, and 1759, the expulsion of the Society of Jesus from Portugal. Three main themes were addressed, which were neither restricted to mathematical sciences nor to a Portuguese connection as the title of the book might suggest: pacing and mapping the world; transmission, translation and teaching; science as a political tool and its impact on Asian societies.

The opening talk by Luís Filipe Barreto portraits Macao as an intercultural frontier between Europe and East Asia in the Ming period. Based on its situation as a port city, Barreto shows how social and commercial networks made Macao a major center for intellectual, linguistic, technological and textual exchange. The following three papers by Li Xiaocong, Liu Dun, and Wang Qianjin focus on cartography. The first, surveying Chinese maps in overseas collections, reads more like a précis of Li Xiaocong's own book *A Descriptive Catalogue of Pre-1900 Chinese Maps Seen in Europe*.[1] Liu Dun's paper focuses on the case of the Spanish Dominican Fray Juan Cobo (1546?-1592) who wrote a catechism in Chinese, the *Shilu* 實錄 (published in Manila in 1593). This book also contains some Western knowledge of geography and cosmology for which the author provides translations and the Chinese original text. Liu conjectures that by combining religious, philosophic and scientific knowledge, the *Shilu* "may have been a harbinger of those missionary tactics applied shortly thereafter by the Jesuits, namely their strategies known as "accommodation" and "knowing," which they pursued in hopes of convincing the Chinese to convert to the Christian religion" (p. 56). Wang Qianjin makes an interesting historiographic point by showing

[1] Li Xiaocong, *Ouzhou shoucang bufen zhongwen gu ditu xulu* 歐州收藏部分中文古地圖續錄. Beijing: Guoji wenhua chuban gongsi, 1996.

through the example of José Martins-Márquez' *New Interpretation of World Geography* (*Xinshi dili beikao quanshu* 新 釋 地 理備 考 全 書, 1847) that the Portuguese influence extended beyond the Qianlong reign.

Catherine Jami follows some Jesuits at work teaching mathematics and astronomy to a variety of audiences and in various locations and social contexts between the 1580s and the 1710s. In contradistinction to those Chinese literati who had received direct teaching from the missionaries and translated Western mathematical books into Chinese under Jesuit guidance, there were many commentaries written on the first Chinese translation of Euclid's *Elements* (*Jihe yuanben*, 1607) by scholars who had studied Western mathematics by themselves.[2] Rui Manuel Loureiro's following paper on the positive image of China in Portuguese literature of the sixteenth century, analyzes the construction of European perceptions of "things Chinese." Assigning Portugal an "extraordinary importance … in European access to knowledge about China" (p. 112), Loureiro bases his argument extensively (although poorly documented by precise references) upon Portuguese descriptions and reports on Chinese everyday life and civilization, which were biased by the fact that they were mainly observations from the maritime and thus prosperous regions of China.

For the same century, Juan Gil reflects upon orientalization by looking at the attraction that India exercised on the people of Spain through the wares exported by the Portuguese armadas. The main part of the article consists of a list of raw material citations in Spanish from dowries, wills and inventories conserved in the Archive Notarial Protocols at Seville, showing the type of wares that found prestige in Spain and were recognized as being of Indian origin.

The three papers by Keizo Hashimoto, Han Qi and Yoshida Tadashi all tackle the difficult question of knowledge assimilation in East Asia in the field of astronomy and cosmology. Hashimoto examines the partial transmission of the knowledge of star mapping by Jesuits in Beijing. Strongly rooted in its tradition, the Chinese constellation system remained unaltered under foreign influence, whereas the coordinate system and the methods of projection were adopted from European astronomy. Based on some new Chinese and Western sources, Han Qi's short paper gives an analysis of the textual and social background of the introduction of Newton's lunar theory into China. It describes the context of the compilation of the *Tables of the Compendium of Astronomy* (*Lixiang kaocheng houbian* 曆 象 考 成 後 編, 1734) through the correspondence of the French astronomer Joseph-Nicolas Delisle (1688-1768) with the Jesuits in China and points out that the very precise lunar tables compiled by an Italian Jesuit N. Grammatici on the basis of Newton's lunar theory were used in the compilation of the *Lixiang kaocheng houbian*. Yoshida's work on the Japanese reaction to Aristotelian cosmology is based upon a book that has gone through several

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[2] Jami's contribution appeared elsewhere with nearly exactly the same wording. See: "Teachers of Mathematics in China: the Jesuits and their Textbooks (1580-1723)," *Archives internationales d'histoire des sciences* 52 (2002): 159-175.

hands of translators and commentators before being printed as the *Kenkon bensetsu* 乾 坤 辯 說 (*Discussions on the Heavens and the Earth with Critical Comments*, preface 1650). Yoshida shows how the Japanese commentator, Mukai Gensho 向 井 元 升 (1609-1677), a Confucian scholar, criticizes Western ideas that Christovao Ferreira (1580-1650), an ex-Christian, had translated from a Western astronomical book.

The two final papers by Park Seong-Rae and Joseph Velinkar complete geographically the picture of Portuguese connections to East Asia by looking at other lands. The first retraces Korean contacts with Portugal, where no Portuguese seems to have arrived until the nineteenth century. The last paper brings together many disparate details on translation between Portuguese and the Konkani language spoken in Goa until the end of the seventeenth century in a first section and aspects of technology transferred to India by the Portuguese, such as the printing press, timepieces, architecture, planting techniques and shipbuilding.

Although this collection of papers of diverse quality has not been prepared with editorial rigueur—some contributions do not even have a bibliography and many have not been revised for their English nor for their internal structure—it remains interesting for the light it sheds on the often neglected role of Portugal and Macao in the early cultural exchanges with China and other East Asian countries. There is a continuation of this valuable pursuit: the editor Luís Saraiva and Catherine Jami have organized a session on the 'History of Mathematical Sciences: Portugal and East Asia III' at The Sixth International Symposium on the History of Mathematics & Mathematical Education Using Chinese Characters (ISHME) in 2005.[3]

[3] August 4-7, 2005, Graduate School of Mathematical Sciences, The University of Tokyo, Komaba Campus.